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| APPLICATION NO.                                                                                                     | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO.               | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------------------------------------|-------------|------------------------|-----------------------------------|------------------|
| 10/612,569                                                                                                          | 07/02/2003  | Peter Traneus Anderson | 129137NV (14291US01)              | 2431             |
| 23446 7590 02/08/2007<br>MCANDREWS HELD & MALLOY, LTD<br>500 WEST MADISON STREET<br>SUITE 3400<br>CHICAGO, IL 60661 |             |                        | EXAMINER<br>HOLLOWAY III, EDWIN C |                  |
|                                                                                                                     |             |                        | ART UNIT<br>2612                  | PAPER NUMBER     |
| SHORTENED STATUTORY PERIOD OF RESPONSE                                                                              |             | MAIL DATE              | DELIVERY MODE                     |                  |
| 3 MONTHS                                                                                                            |             | 02/08/2007             | PAPER                             |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/612,569

Applicant(s)

ANDERSON, PETER TRANEUS

Examiner

Edwin C. Holloway, III

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2612

**EXAMINER'S RESPONSE**

1. In response to applicant's amendment filed 11-21-06, all the amendments to the specification and claims have been entered. The examiner has considered the new presentation of claims and applicant's arguments in view of the disclosure and the present state of the prior art. And it is the examiner's opinion that the claims are unpatentable for the reasons set forth in this Office action:

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8 and 10-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claims 1, 8, 13, 15, 21, 22 and 28 have been amended to add the limitation of "in relation to a reference coordinate system," but an enabling disclosure of this limitation in the

Art Unit: 2612

detailed description is not present in the specification as originally filed. Page 2, paragraph 06 of the specification reference coordinate system, but lacks an enabling disclosure of a tracking system determining position or orientation of a transponder in relation to a reference coordinate system.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 35-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 35-38 are unclear because they refer to claim 1 as a system, but claim 1 is directed to a transponder.

***Claim Rejections - 35 USC § 102 & 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Stephen (US 4302846).

Regarding claims 13-14, Stephen discloses a marker tag with coil L around a core and connected to diode 244 and capacitor C for transmitting a signal. See fig. 4A and col. 6 lines 58-68.

Art Unit: 2612

A tracking system tracking position of the tag is provided by the detection of relative location or position that is indicated by multiple indicators 102-110 in col. 8 lines 45-61 in addition to alarm warding device 92 in col. 8 lines 1-8. Although the term "tracking" is not used, the multiple indicators track position as is evident from col. 9 line 26 reciting that the receiver indicates a change in tag position and can determine with accuracy not only the position of the tag, but the exact moment the tag is in the doorway. Further, multiple different zones are discussed in col. 9 line 40. The non-linear rectifying device 21/244 connected to coil 20/L introduces non-linear characteristics into the response signal col. 2 line 35 - col. 3 line 5 to allow the tracking system to distinguish the response signal from the excitation signal (col. 3 lines 6-27). This also enables the tracking system to determine one of position and orientation of the transponder based at least in part on the response signal by providing position indication by indicators 112-120 in addition to an alarm by warning device 92 in at least col. 3 lines 42-52.

Regarding the new limitation of "in relation to a reference coordinate system," lamps 102-110 of Stephen represent intervals of distance corresponding to a reference coordinate system.

See col. 8 lines 45-60.

Art Unit: 2612

8. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephen (US 4302846) in combination with Arndt (US006097189A).

Arndt discloses an analogous art transponder with nonlinear load such as a diode to provide harmonic response to avoid position tracking inaccuracies and false detection in col. 2. Position ins determine relative to an X-Y-Z coordinate system in cols. 6 and 8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Stephen the capability of position determination relative to a coordinate in view of Arndt disclosing this in use with a transponder having a diode for harmonic response as in Stephen for to avoid position determination inaccuracies and false detection.

9. Claims 1-2, 8, 15-18 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman (US 4670740) in combination with Stephen (US 4302846) and Arndt (US006097189A).

Regarding claims 1-2, 8, 15-18 and 28-29, Herman discloses a transponder tag used in a surveillance or tracking system with a diode D1 in parallel with a coil L for receiving a first wireless electromagnetic signal at a first frequency and transmitting a second signal at a second frequency to identify the tag. See at least fig. 1 and the abstract. Herman does not

Art Unit: 2612

disclose tracking position.

Stephen and Arndt were discussed above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Herman the position tracking of Stephen and Arndt in order to indicate relative position of the tag in the zone, indicate when the tag passes through a doorway and/or monitor plural zones for increased security and/or more accurate detection.

10. Claims 1-3, 5, 7-8, 10-12, 15-29 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augenblick (US 3789642) in combination with Carney (US 5446447), Stephen (US 4302846) and Arndt (US006097189A).

Augenblick discloses a transponder or target 24 used in a recognition or tracking system (col. 1 lines 50-55) with a diode 28 in parallel with a capacitor 34 and a coil 36 for receiving a first wireless electromagnetic signal at a first frequency and transmitting a second signal at one or more second frequencies. See at least fig. 1 and col. 2 line 58 - col. 3 line 62. Regarding claim 18, the transponder is identified by the response signal. Switches to vary the reactance including the capacitance and change the second frequency are included in col. 4 lines 40-51. An antenna 26 is included, but coil for the antenna is not specified.

Art Unit: 2612

Carney discloses an analogous art tag system with coil antenna 24 in parallel with tuning devices including capacitors 26-32 and switching diodes 42-48 controlled by controller 36 in fig. 1. Antenna 24 receives one or more first frequencies from a reader and transmits one or more second frequencies selected by the switching. The switching varies reactance or capacitance to vary the resonance frequency. A single varactor diode may be provided as in fig. 16 or separate switches in fig. 18. The See at least cols. 5-6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Augenblick the coil antenna that Carney discloses is well known in such devices for receiving power and providing a response in a passive tag. It further would have been obvious to have included the controller and plural frequency selection circuits of Carney in view of the switches in figs. 10-11 of Augenblick for selecting a code in a similar manner.

Stephen and Arndt were discussed above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the position tracking of Stephen and Arndt in order to indicate relative position of the tag in the zone, indicate when the tag passes through a doorway and/or



Art Unit: 2612

monitor plural zones for increased security and/or more accurate detection. The combination is suggested by Augenblick referring to tracking in col. 1 lines 51-55.

11. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augenblick (US 3789642) in combination with Carney (US 5446447), Stephen (US 4302846) and Arndt (US006097189A) as applied above and further in view of Murdoch '583 (US 5153583).

Murdoch '583 discloses a transponder with a synchronous rectifier in cols. 11 and 14 to provide simple and readily integrated rectification. A transistor for modulation switching in the integrated circuit is provided in fig. 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the synchronous rectifier and/or the transistor of Murdoch '583 to allow integrated circuit rectification/switching.

12. Claims 4, 6 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Augenblick (US 3789642) in combination with Carney (US 5446447), Stephen (US 4302846) and Arndt (US006097189A) as applied above and further in view of Walton (US 4918416).

Walton discloses a transponder with a transistor switches

Art Unit: 2612

30 and 31 in series with diodes 25 and 25 to change reactance of the transponder and provide modulation of a response signal with low power drain. See at least fig. 1 and cols. 2-3.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above at least one transistor switch in series with a diode as disclosed in Walton for low power drain.

13. Claims 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman (US 4670740) in combination with Stephen (US 4302846) and Arndt (US006097189A) as applied above and further in view of Dumoulin'066 (US005443066A).

Dumoulin'066 discloses RF tracking system where a transmitter placed in a patients body is tracked to determine position and orientation in relation to patient anatomy by determining a location that is superimposed on a medical image in col. 3 lines 55-67. This is provided by overlaying coordinate system (x, y, z, theta, phi) in incorporated applications 07/753563 07/753565 corresponding to US Patents 5377678 and 5211165. The transmitter includes rectifying diodes and transmits a to the tracking system at a frequency different from the activation frequency similar to Stephen and Arndt. See col. 4 lines 19-53. This allows tracking of an invasive device

Art Unit: 2612

with RF signals.

Regarding claims 35-41 it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the determination of position and/or orientation relative to a coordinate system that overlays a medical image of patient anatomy of Dumoulin'066 because the rectifiers and activation frequency different from the tracked frequency in Dumoulin'066 suggest the diode of Stephen and Arndt using harmonics for accuracy. The combination is also suggested by Arndt including transponders on a human body in fig. 7.

14. Claims 35-41 Augenblick (US 3789642) in combination with Carney (US 5446447), Stephen (US 4302846) and Arndt (US006097189A) as applied above and further in view of Dumoulin'066 (US005443066A).

Dumoulin'066 discloses RF tracking system where a transmitter placed in a patients body is tracked to determine position and orientation in relation to patient anatomy by determining a location that is superimposed on a medical image in col. 3 lines 55-67. This is provided by overlaying coordinate system (x, y, z, theta, phi) in incorporated applications 07/753563 07/753565 corresponding to US Patents 5377678 and 5211165. The transmitter includes rectifying diodes

Art Unit: 2612

and transmits a to the tracking system at a frequency different from the activation frequency similar to Stephen and Arndt. See col. 4 lines 19-53. This allows tracking of an invasive device with RF signals.

Regarding claims 35-41 it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in the combination applied above the determination of position and/or orientation relative to a coordinate system that overlays a medical image of patient anatomy of Dumoulin'066 because the rectifiers and activation frequency different from the tracked frequency in Dumoulin'066 suggest the diode of Stephen and Arndt using harmonics for accuracy. The combination is also suggested by Arndt including transponders on a human body in fig. 7.

#### ***Response to Arguments***

15. Applicant's arguments filed 11-21-06 have been fully considered but they are not persuasive and or moot in view of new grounds of rejection.

Applicant argues that the 102 rejection of claims 13-14 under 102(b) as anticipated by Stephen is improper because Stephen only triggers a warning device that does not require exact determination of position and orientation. This argument

Art Unit: 2612

is not persuasive because Stephen includes a warning device 92 to provide an alarm based on the sum of the frequencies transmitted by the tag and Stephen also included five position indicators (102-110) that indicate the position of the tag by comparison of the relative signal strengths of the signals to monitor or track position. See col. 3 lines 45-56 and col. 8 line 45 - col. 9 line 31. The argument that Stephen lacks exact determination of position and orientation is not persuasive because the claims only include the capability of determining "one of position and orientation" and the specification lacks an adequate and/or enabling disclosure of any structure or steps to determine exact position and orientation. The argument that Stephen determines only the relative position of the boundary of the zone judged by the warning indicator is not persuasive for the reasons stated above and because "relative" position is not excluded by applicant's claims or specification. The argument that Stephen determines only approximate position is not persuasive because "approximate" position is not excluded by applicant's claims or specification.

The argument that Stephen lacks the new limitation of "in relation to a reference coordinate system," is not persuasive because lamps 102-110 of Stephen represent intervals of distance corresponding to a reference coordinate system. See col. 8

Art Unit: 2612

lines 45-60. Further, this argument is moot in view of the rejections relying on Arndt to clearly disclose a coordinate system for tracking a transponder having a nonlinear load.

The argument that the claims are not anticipated by Herman is moot because Herman is applied under 103 in combination with Stephen.

The arguments that 103 rejections are improper because all the applied references are direct to presence detection systems is not persuasive because the reference are combined with Stephen and Arndt in the rejections to teach position tracking in addition to presence detection as discussed above. Further, Augenblick discloses tracking a target in col. 1 lines 55-55 that at least suggest position tracking.

The arguments regarding the new claims are moot in view of the new rejections relying on Dumoulin'066.

#### **Conclusion**

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dempsey (US006132371A) discloses a patient implant transponder switching a diode to communicate data.

#### **CONTACT INFORMATION**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2612


may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact an Electronic Business Center (EBC) representatives at 571-272-4100 or toll free at 1-866-217-9197 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at [ebc@uspto.gov](mailto:ebc@uspto.gov). The Patent EBC is a complete customer service center that supports all Patent e-business products and service applications. Additional information is available on the Patent EBC Web site at <http://www.uspto.gov/ebc/index.html>.

Any inquiry of a general nature should be directed to the Technology Center 2600 receptionist at (571) 272-2600. Facsimile submissions may be sent via central fax number 571-273-8300 to customer service for entry by technical support staff. Questions related to the operation of the facsimile system should be directed to the Electronic Business Center.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C. Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F (8:30-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308.

EH  
2/4/07

  
EDWIN C. HOLLOWAY, III  
PRIMARY EXAMINER  
ART UNIT 2612